

REFERENCE 2

ATTACHMENT 1

FINAL REPORT

PCB SOIL SAMPLING IN THE
TRANSFORMER YARD (CPP-705)
IDAHO CHEMICAL PROCESSING PLANT

WESTINGHOUSE IDAHO NUCLEAR COMPANY, INC.

JULY 1988

FINAL REPORT

PCB SOIL SAMPLING IN THE TRANSFORMER YARD (CPP-705) IDAHO CHEMICAL PROCESSING PLANT

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TABLE OF CONTENTS

1.0	INTRODUCTION	1
2.0	SAMPLING AND ANALYSIS	2
2.1	Surface Soils	2
2.1.1	Main Transformer Pad Area	2
2.1.2	Live Transformer Area	2
2.2	Subsurface Soils	2
3.0	ANALYTICAL RESULTS	3
4.0	DATA QUALITY	3
5.0	CONCLUSIONS	4

Figures:

Figure 1 Map Of The WINCO Complex

Figure 2 Map Of The Transformer Yard CPP-705

Figure 3 Location Of Soil Sampling Sites

Appendices:

Appendix #1 LABORATORY REPORT

FINAL REPORT

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WESTINGHOUSE IDAHO NUCLEAR COMPANY, INC.

JULY 1988

1.0 INTRODUCTION

Westinghouse Idaho Nuclear Company (WINCO), Inc. contracted the University of Utah Research Institute (UURI) to conduct a soil sampling project at its facility approximately 47 miles west of Idaho Falls, Idaho. This facility maintains a fenced Transformer Yard (CPP-705; Figs. 1 and 2) that historically has contained electrical transformer equipment mounted on concrete pads. The purpose of this project was to determine if soils in the Transformer Yard at the WINCO facility had been impacted by polychlorinated biphenyl (PCB) contaminated oils contained in the transformer equipment located on the concrete pads. There is no record of major spills or leakage associated with this particular site. However, small stains on the Main Transformer Pad, which is the largest concrete pad within the Transformer Yard, indicate small quantities of transformer oil have leaked or been spilled on the pad. Chemical analysis of a stained concrete sample collected from this pad yielded a PCB content of 21.9 parts per million (See Appendix 1). WINCO documentation indicates the transformers used in this area contained oils with PCB concentrations ranging from zero to 330 parts per million (ppm). Prior to this sampling project, all transformers had been removed from the Main Transformer Pad.

Soil sampling in the WINCO Transformer Yard was conducted by UURI personnel on July 28, 1988. All samples were submitted for laboratory analysis on July 29, 1988. Sampling and analytical activities for this project were performed in

accordance with U. S. Environmental Protection Agency (EPA)-recommended protocols as outlined in the written Quality Assurance Project Plan prepared for this project.

2.0 SAMPLING AND ANALYSIS

Judgement sampling was utilized to collect all soil samples for analysis. Soils sampling included all areas of visible stains or discoloration to provide a worst case scenario for potential PCB soil contamination. A map of the Transformer Yard showing sampling locations is presented in Figure 3.

2.1 Surface Soils

2.1.1 Main Transformer Pad Area

The soil area surrounding the Main Transformer Pad was divided into four quadrants (North, East, South, and West) by extending a line from the center of the pad through each corner. Five equal aliquots of surface soils were collected in each quadrant for compositing and analysis. The aliquots included all stained soils and were collected from an area extending out to a distance of three feet from the pad.

2.1.2 Live Transformer Area

Three aliquots of discolored surface soils, located adjacent to and directly below repaired connections on a live transformer suspected to contain oil contaminated with a PCB concentration of 50 ppm, were collected and composited for PCB analysis. This transformer is located approximately 10 feet northwest of the Main Transformer Pad.

2.2 Subsurface Soils

One grab sample of soils at a depth of 16 to 24 inches was collected in each quadrant around the Main Transformer Pad. The subsurface samples were collected at points exhibiting the greatest potential for PCB contamination.

All soil samples were submitted to Utility Testing, Inc. of Salt Lake City, Utah for analysis of PCB content. This laboratory specializes in PCB analyses and is certified by the Utah Department of Health, State Health Laboratory, Bureau of Laboratory Improvement to perform the required analyses.

3.0 ANALYTICAL RESULTS

PCB Aroclor 1254 was found to be present at low levels in the composite samples of the surface soils from the North and West Quadrants adjacent to the Main Transformer Pad. These samples contained PCBs at a concentration of 1.0 and 0.7 ppm respectively. The PCB content of all other surface and subsurface samples was reported as below 1.0 ppm. A copy of the laboratory report may be found in Appendix 1.

Although the PCB results for most of the project soil samples were reported as below 1.0 ppm, the actual Minimum Detection Limit (MDL), calculated from the laboratory raw data sheets, was 0.1 ppm. Utility Testing's computerized laboratory report sheet is formatted to show a soil sample MDL of 1.0 ppm unless manually changed. The MDL change was made for sample WCPP-5 (0.7 ppm) but not for the samples in which no PCBs were detected during analysis. Samples WCPP-2, WCPP-3, WCPP-4, WCPP-6, WCPP-7, WCPP-9, WCPP-10, and WCPP-11 should have been reported as less than 0.1 ppm.

4.0 DATA QUALITY

Quality assurance and quality control data from laboratory samples routinely analyzed in conjunction with PCB soil samples indicate the results of the analyses to

be well within EPA-recommended criteria for data acceptability. Accuracy calculations, derived from analyses of standards and standard reference materials, indicate the mean recovery for PCBs in soil samples to be 101.5% with a relative standard deviation about the mean of 4.8%. Precision calculations, derived from analyses of laboratory and field duplicates, indicate a relative standard deviation of 2.7% about a mean of 100%. The 95% "Confidence Limit" for the project soil samples indicate the reported values to be within 12.9% of the actual true values.

5.0 CONCLUSION

The results indicate the concentration of PCBs in soils of the Transformer Yard (CPP-705) to be at very low levels (less than 1.0 ppm). The analytical results, coupled with visual evidence that the stains on the Main Transformer Pad were less than 12 inches in diameter and documentation that transformer oil PCB content was less than 500 ppm, would indicate the less than ten pounds of PCB material has been released.

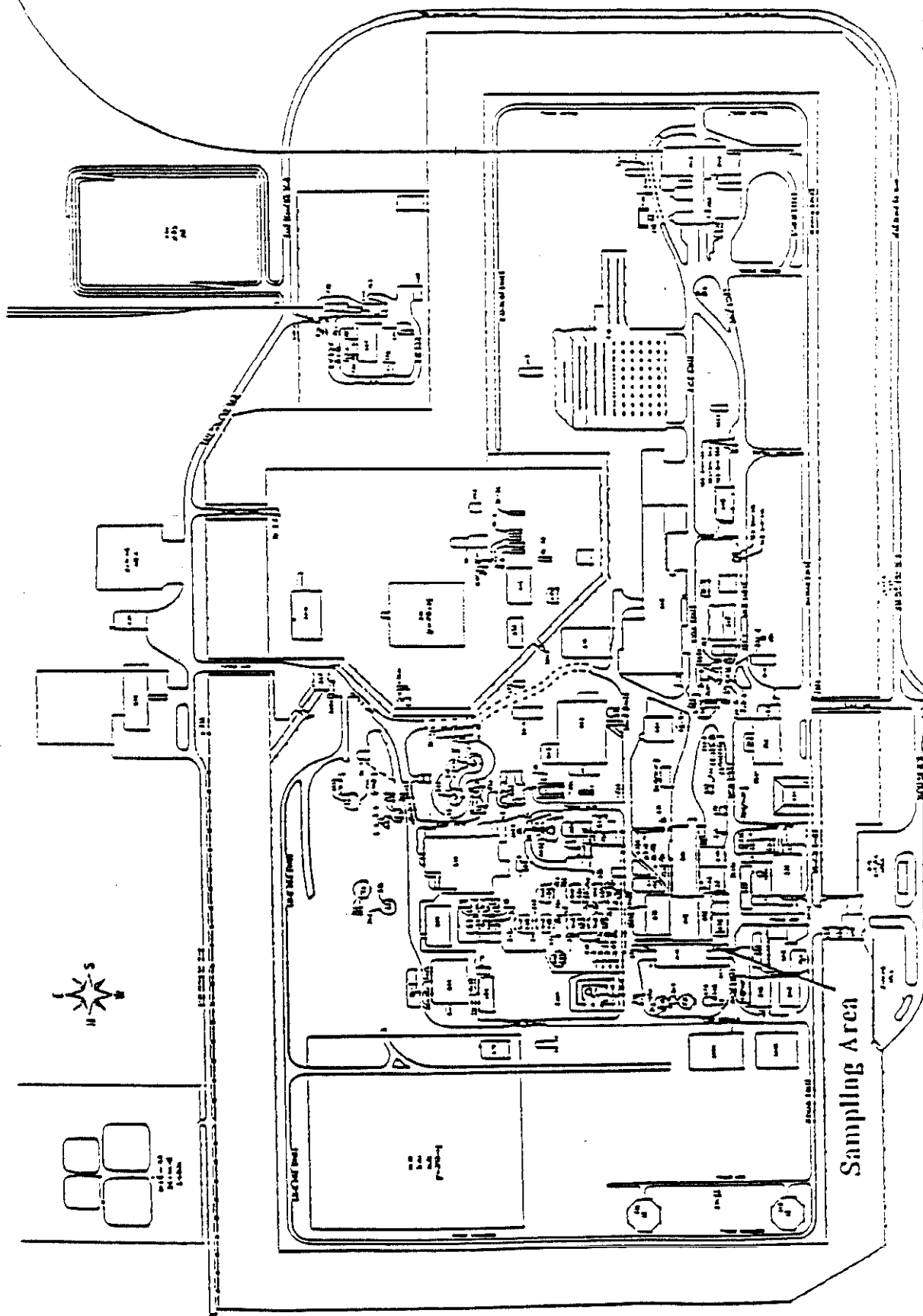


Figure 1

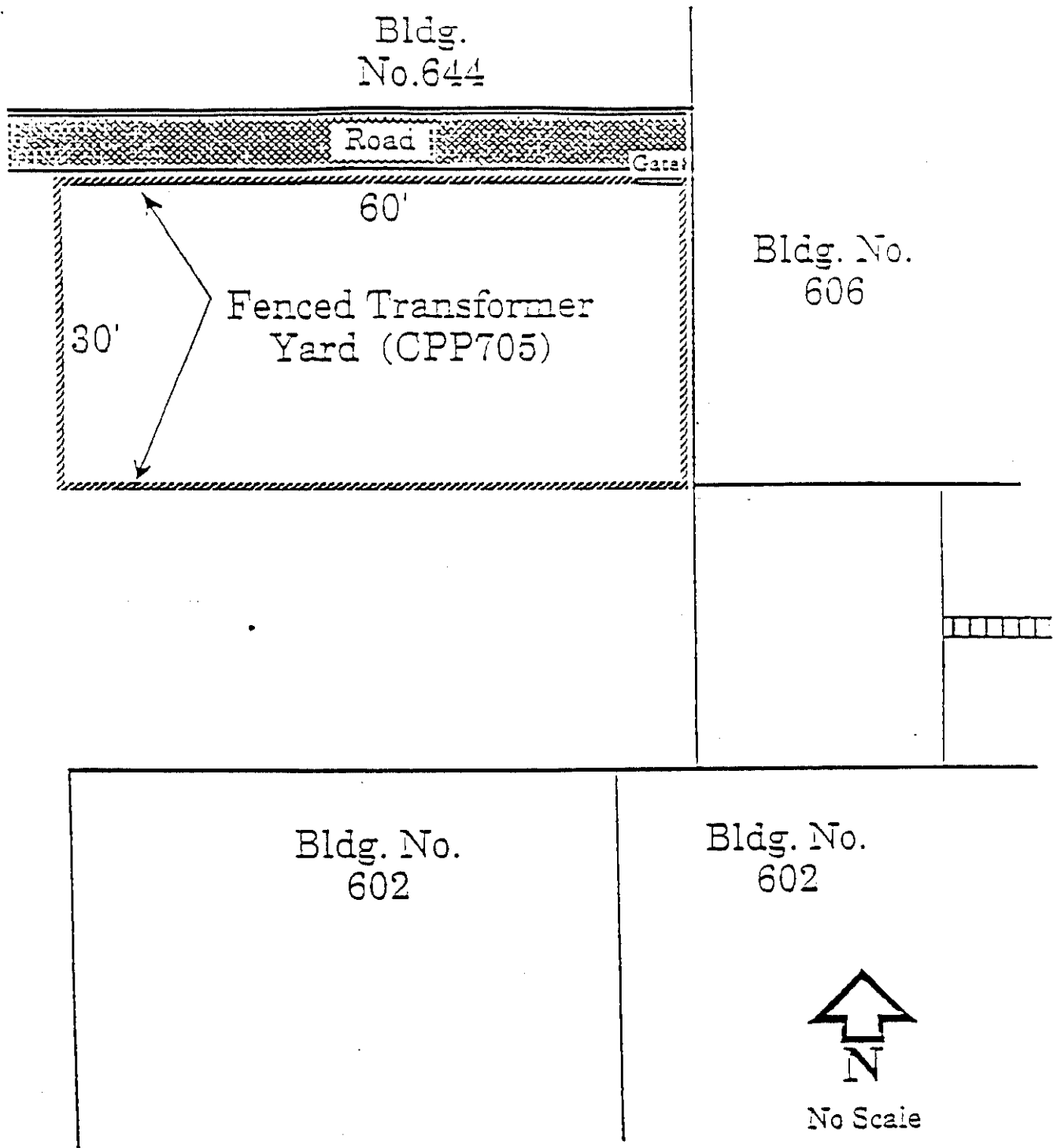


Figure 2. Location of Transformer Yard (CPP-705)

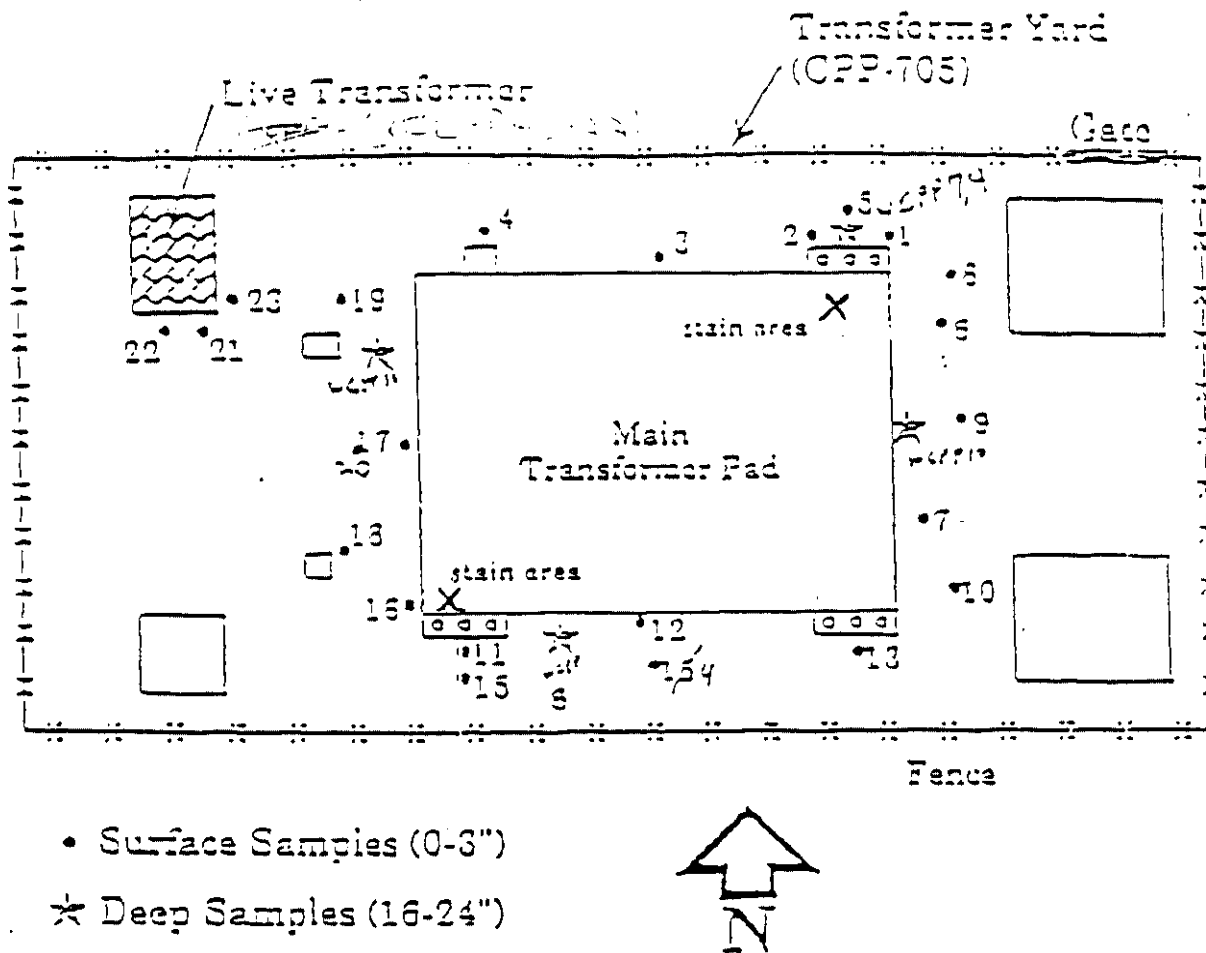


Figure 3. Locations of sample sites in Transformer Yard (CPP-705)

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APPENDIX 1

UTILITY TESTING LABORATORY

875 SO. CHESTNUT ST.

P. O. BOX 25005

SALT LAKE CITY, UTAH 84125

PHONE: (801) 973-8305

JUNE 17, 1988

UNIVERSITY OF UTAH RESEARCH INSTITUTE
791 CHIPETA WAY SUITE C
SALT LAKE CITY, UT 84108

ATTENTION: MR. JOE MOORE

SUBJECT: ORDER NO. RI 200-1212
RELEASE DATE: 12 JUN 1988
POB TESTS ON OIL SAMPLES

GENTLEMEN:

FOLLOWING ARE THE TEST RESULTS ON YOUR SUBJECT SAMPLES:

<u>TEST NO.</u>	<u>CONCRETE SAMPLE NO.</u>	<u>RESULT OF TEST</u>
6-12-88-01	07196712 SITE NO. 10FF-WINLC	01.9 PPM (1250) PCB

UTILITY TESTING LABORATORY

D M Thoreen
D. M. THOREEN *DM*

ORIGINAL

UTILITY TESTING LABORATORY

275 SO. CHESTNUT ST.
P. O. BOX 25005
SALT LAKE CITY, UTAH 84125
PHONE: (801) 973-8305

AUGUST 4, 1988

ENVIROSEARCH
508 EAST WILMINGTON AVE.
SALT LAKE CITY, UT 84106

ATTENTION: MR. RALPH HELFER

SUBJECT: ORDER NO. VERBAL - R. HELFER
RELEASE DATE: 19 JUL 1988
PCB TESTS ON OIL SAMPLES

GENTLEMEN:

FOLLOWING ARE THE TEST RESULTS ON YOUR SUBJECT SAMPLES:

TEST NO.		RESULT OF TEST
7-29-88-03	SOIL SAMPLE NO. WOPF-1 AREA N. QUAD. SURF.	1.0 PPM (LESS) PCB
7-29-88-04	SOIL SAMPLE NO. WOPF-2 PAD EAST PAD SURF.	LESS THAN 1 PPM PCB
7-29-88-05	SOIL SAMPLE NO. WOPF-3 SOUTH QUAD SURF.	LESS THAN 1 PPM PCB
7-29-88-06	SOIL SAMPLE NO. WOPF-4 AREA FIELD BLANK	LESS THAN 1 PPM PCB
7-29-88-07	SOIL SAMPLE NO. WOPF-5 PAD WEST QUAD.	0.7 PPM (LESS) PCB
7-29-88-08	SOIL SAMPLE NO. WOPF-6 N.W. AREA OF SITE	LESS THAN 1 PPM PCB
7-29-88-09	SOIL SAMPLE NO. WOPF-7 N.E. CORNER	LESS THAN 1 PPM PCB
7-29-88-10	SOIL SAMPLE NO. WOPF-8 AREA OF E. OF S.W. CORNER	LESS THAN 1 PPM PCB

PAGE 1

ORIGINAL

AUGUST 4, 1968

ENVIROSEARCH

ATTN: MR. RALPH HELFER

Re: ORDER NO. VERBAL - R. HELFER

RELEASE DATE: 29 JUL 1968

POB TESTS ON OIL SAMPLES

<u>TEST NO.</u>		<u>RESULT OF TEST</u>
7-29-68-11	SOIL SAMPLE NO. WOPR-9 RAD 7' W. OF N.E. CORNER	LESS THAN 1 PPM PCB
7-29-68-12	SOIL SAMPLE NO. WOPR-10 RAD CENTER OF E. SIDE	LESS THAN 1 PPM PCB
7-29-68-17	SOIL SAMPLE NO. WOPR-11 AREA 1' E. OF W. OF N.W. CORNER	LESS THAN 1 PPM PCB

UTILITY TESTING LABORATORY

D. M. Thorsen
D. M. THORSEN



EARTH SCIENCE LABORATORY
391 CHIPETA WAY, SUITE C
SALT LAKE CITY, UTAH 84108-1295
TELEPHONE 801-524-3422

March 25, 1991

Brenda Cole
Westinghouse Idaho Nuclear Co. Inc.
1955 Fremont Ave.
MS 5117
Idaho Falls, ID 83403

Dear Ms. Cole:

Here is the information you requested regarding the sampling we did at CPP-705 (Transformer Yard).

Samples WCPP-1 to 6 are composite samples of surface soils. The samples were composited as follows (refer to the enclosed figure for sample locations and the table of analyses from Utility Testing Laboratory):

WCPP-1: composite of samples 1 through 5
WCPP-2: composite of samples 6 through 10
WCPP-3: composite of samples 11 through 15
WCPP-4: blank
WCPP-5: composite of samples 16 through 20
WCPP-6: composite of samples 21 through 23 (Live Transformer Pad)

The following sample numbers refer to the deep samples collected from a depth of 18 inches (stars on the figure):

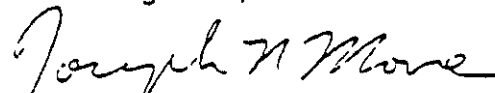
WCPP-7: north side of Transformer Pad
WCPP-8: south side of Transformer Pad
WCPP-9: duplicate of WCPP-7
WCPP-10: east side of Transformer Pad
WCPP-11: west side of Transformer Pad

Note that the values for samples WCPP-2, 3, 4, 6, 7, 9, 10 and 11 could have been reported as less than 0.1 ppm based on calculations R. Helfer has made from laboratory data sheets. The composite value of 0.7 ppm from the West quadrant is probably caused by oil that ran from the stained area on the southwest corner of the pad.

The numbers in parentheses on the Laboratory sheets (1254 and 1260) refer to the specific type of PCB present in the samples.

I hope this answers all of the questions you posed. If any others arise, please do not hesitate to call me.

Best regards,

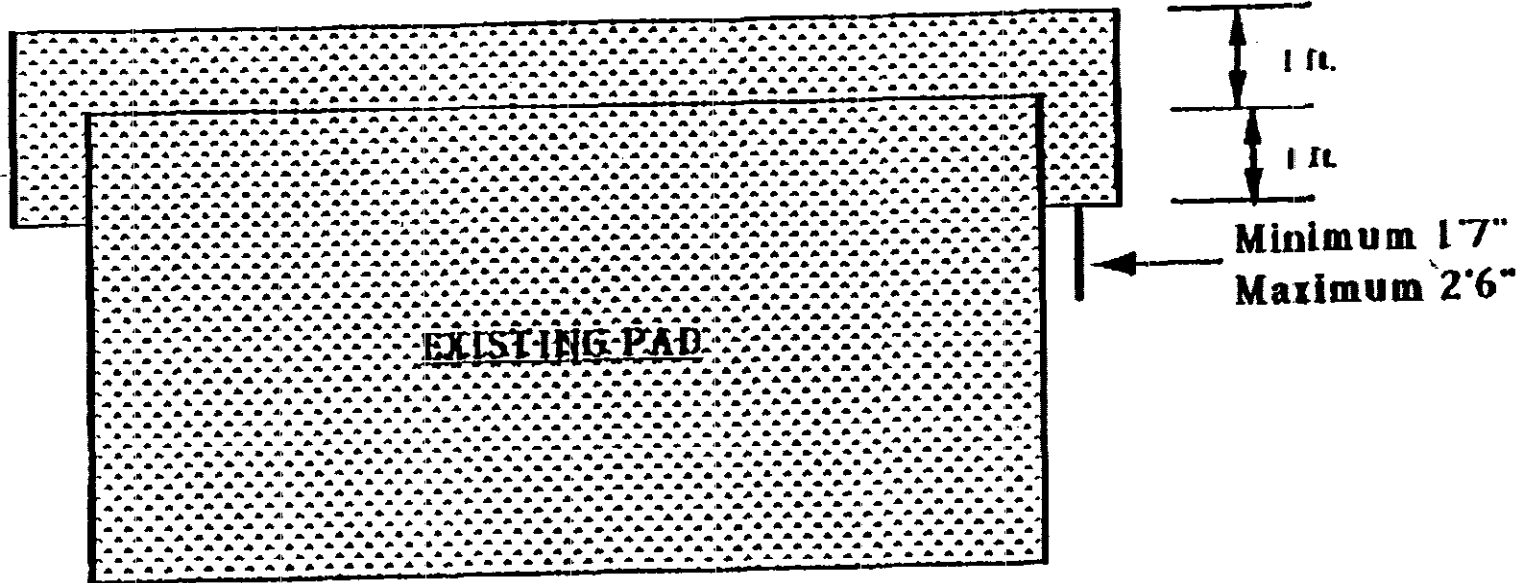
A handwritten signature in cursive script that reads "Joseph N. Moore".

Joseph N. Moore
Project Manager

JNM/cd

CONCRETE CAP FOR TRANSFORMER

New Concrete
Cap



Not to Scale

The existing pad is approximately 12 ft. x 13 ft. x 5 ft. and weighs approximately 53 tons.

The gravel surrounding the existing pad would be moved back from the pad to the extent necessary to allow for the forming of the new concrete cap. No soil or gravel would be removed from the area. After construction is complete, the material pulled away to allow for forming will be redistributed around the new cap.

TRANSFORMER XFR-PF⁺ 22 INSTALLATION

